Cricklade to Newbury; to the east of that road where it traverses Wanborough (a few miles east of Swindon).

The observers, whose descriptions are given below, were Miss May Jeans, aged eighteen; Mr. Purcell Jeans, aged sixteen; and Miss Emily Swayne.

Miss Jeans' description is as follows:—

"*November* 22.—Last Wednesday afternoon, November 15, as I was lying down in an easy chair, looking out of a window facing north, and was not thinking of seeing the meteors, but suddenly I noticed them. Immediately I called Miss Swayne to come and look and see if she could also see them. We then went out of doors to look at them; the air seemed full of them, both large and small meteors. There was a thick mist at the time, which cleared off after the shower was over. The element seemed alive with them; small ones were on the background, and larger ones suddenly appearing and shooting across the sky. The shower lasted about an hour. It was half-past one o'clock when first I noticed them. Just before half-past two, my brother, Purcell Jeans, came in from a walk, and I called him to see them. They were nearly over then. We also called Mrs. Prismall of this village, our washerwoman. They were like silver balls shooting about everywhere, shining brightly, more like a very starlight night; only the stars, instead of being a gold colour, were silver, and every star shooting in all directions. It is so difficult to describe, as I have never seen anything like it before."

Mr. Purcell Jeans writes:—

"When I came back from a walk, on Wednesday, about a quarter-past two o'clock, Miss Swayne told me to come and look at the Leonids, which I did. They were nearly over then, but the elements seemed full of them. I went indoors for a few minutes, and when I came out there was nothing more to be seen of them. There was a mist prevailing at the time, which we thought must have been the cause of our being able to see them. I was very much surprised at the sight, as I never thought it possible to see stars in the daylight. They looked like a lot of little silver balls floating about, and apparently falling to the earth."

Miss Emily Swayne's description of the shower is as follows:—

"I had just come indoors, on Wednesday last, November 15, at half-past one o'clock, and remarked to the washerwoman what a peculiar feeling there was in the air, as if we should have snow, and yet it did not feel cold enough. Almost as I finished speaking Miss Jeans called me. I found her sitting in an armchair quite close to the window. She exclaimed, 'Come and see. I believe I can see stars.

"I thought it impossible, and would not believe it, but I looked, and certainly saw what appeared to be stars. We then went out, calling the washerwoman to come with us.

"I was facing the north. The air seemed filled all round me with little floating silver balls, which apparently fell from the sky, and on looking right up I saw what seemed to be large shooting stars, all starting from one point, some going east and others west; some leaving longer lines of light behind them than others. I thought it a very wonderful sight, and have never seen anything at all like it before."

The above descriptions give a fairly good account of a meteor shower seen during the daytime, and it will be interesting to hear if any other people in that neighbourhood noticed anything on that date.

The second communication hails from Aveley, in Essex, and the correspondent, Mr. E. Shaw, writes as follows:—

"We observed what appeared to be the meteor shower yesterday (Wednesday, November 15) afternoon between the hours of three and half-past four, resembling a shower of snow, only they were stars, working in and out and round about. We are not mistaken, for two persons in my house saw them."

Considering the accounts of these "daylight" observations in conjunction with those made at Paris and Strasbourg, there seems to be a certain amount of continuity between them.

At both the latter places the shower had every appearance, judging by the numbers of meteors observed, of increasing in intensity as the morning of the Wednesday wore on, and there seems no reason why the actual maximum should not have occurred about mid-day on the same day, and thus escaped more general notice. At the time of the observations made at Little Hinton, the constellation of Leo was already well below the horizon, so that the shower should also have been seen from some place during the night time. As no news of any such display having been seen has come to hand, these observations therefore receive no corroboration. Miss Swayne's statement that the shooting stars were "all starting from one point, some going east and others west," shows that they could not have been Leonids in any case. The observations are, however, worth recording, but that they refer to the Leonids is very much open to doubt.

The Andromedes.—This swarm of meteors, which follows the Leonids somewhat closely as regards the time of year, seems to have been seen by several observers.

From America we learn that Prof. Young, at Princeton, on the night of November 24, saw forty-two Andromedes and secured several photographs, but the period of observation is not stated. Mr. E. C. Willis, of Norwich, made many observations on the same night, and these are given below:—

November 24.

Time.	Meteors seen.		Remarks.
	Andromedes.	Others.	
10.0 –10.15	20	1	Fine.
10.15–10.30	9	2	Fine, but some cloud.
10.30–10 45	4	2	Fine.
10.45–11.0	6	2	Fine.
11.0 –11.15	9	2	Fine.
11.15–11.25	4	1	Partly clouded, moon just risen.

Before 10h. no systematic watch was made, but if the meteors had been exceptionally abundant, they would have been noticed.

11h. 30m.–16h. 45m. Sky entirely overcast.

16h. 45m.–17h. 15m. Slight breaks in the cloud, but no meteors seen.

W. J. S. LOCKYER.

FERDINAND TIEMANN.

CHEMISTS will learn with regret of the death of Prof. Ferdinand Tiemann, which occurred at Meran, of heart disease, on November 17.

Johann Carl Wilhelm Ferdinand Tiemann was born at Rübeland in 1848. He graduated as Ph.D. at Göttingen in 1870, and afterwards held the post of demonstrator under Hofmann in Berlin, in whose laboratory most of his researches were carried out, frequently in collaboration with students and pupils. In 1882 he was appointed professor of chemistry in the University of Berlin, and in the following year he succeeded Wichelhaus as editor of the Reports of the German Chemical Society, a post which he resigned in 1897.

Tiemann's best known researches deal with the constitution of odoriferous principles. In 1874 he showed that the glucoside coniferin, which occurs in the sap of coniferous trees, could be hydrolysed by emulsin into glucose and coniferylic alcohol, and that the latter compound, when oxidised, yielded vanillin, identical with the odoriferous principle of vanilla. A manufactory was established at Holzminden under the direction of his pupils, Haarmann and Reimer, both of whom had been associated with him in his researches on vanillin, and the commercial

production of this substance from the cambium of the larch became an accomplished fact. But Tiemann was not content with this merely material success; in a masterly series of researches, the constitution of vanillin and various allied naturally-occurring compounds — the protocatechuic series—was established. Fresh syntheses of vanillin—from eugenol and from guaiacol—were also discovered.

In 1893 he published, along with Krüger, his well-known paper "On the Aroma of the Violet." It was, however, the aroma rather of the iris root or orris root (with which that of the violet may or may not be identical) that he investigated. The quantity of the odoriferous principle contained in iris root is so infinitesimal, and that of the root to be extracted, consequently, so large, that, as he states, the resources of a mere scientific laboratory proved unequal to the task, and this preliminary part of the investigation had to be carried out in the works at Holzminden. The substance thus isolated was thoroughly investigated and its constitution established. In order to indicate its origin and, at the same time, its ketonic constitution, he termed it *irone*. His attempt to synthesise it was not, from the point of view of the pure chemist, successful, although for the manufacturing chemist it was of the utmost value. Starting with citral, obtained from oil of lemons or from lemon-grass oil, he condensed this substance with acetone, converting it into a compound which he termed pseudo-ionone; this, when treated with dilute sulphuric acid, yielded ionone, isomeric—not identical—with irone, but so closely resembling it in smell that very few people can detect the difference. For the purposes of the perfumer, therefore, ionone is every whit as good as irone. It is now manufactured, and the value of the process to the patentees may be judged of from the attempts that have been made to evade or to invalidate the patent—attempts that have been foiled in courts of law both in this country and in Germany.

Amongst Tiemann's numerous other researches may be mentioned his work on the terpenes, on camphor, and on the synthesis of amido-acids.

He was a brother-in-law of the late A. W. von Hofmann.

NOTES.

AT a general monthly meeting of the members of the Royal Institution, held on Monday, the following letter from the Clerk of the Goldsmiths' Company, Sir Walter S. Prideaux, was read:—"I am directed to inform you that the attention of the Court of the Goldsmiths' Company having been drawn to the fact that the Royal Institution of Great Britain has lately celebrated its centenary, they have, in order to mark their sense of the importance of that event, been pleased to make to the Institution the further grant of 1000*l.*, for the continuation and development of original research, and especially for the prosecution of further investigations of the properties of matter at temperatures approaching that of the absolute zero of temperature. I enclose a cheque for this amount, and I shall feel obliged to you to acknowledge the receipt." The following resolution, proposed by the Lord Chancellor, and seconded by Sir A. Noble, was then passed:—"That the members of the Royal Institution of Great Britain, in general meeting assembled, having been informed that the Court of the Goldsmiths' Company have made a donation of 1000*l.* to the funds of the Royal Institution in commemoration of its centenary, and in aid of the investigations which are being carried on in its laboratories into the properties of matter at low temperatures, desire to express to the Court their profound and grateful appreciation of this second munificent manifestation of their practical interest in the work of the Institution—a manifestation which has been made on this occasion at once reminiscent of past services to science and prescient of services yet to come."

THE Dover Town Council has received a letter from the President of the French Association for the Advancement of Science, enclosing a handsome silver medal, presented to the municipality in commemoration of the Association's visit to the town in September last. The Mayor, Sir William Crundall, said the medal would be placed with the corporation plate. It was decided to make a grateful acknowledgment of the gift.

DR. T. E. THORPE, F.R.S., has been appointed to succeed the late Sir Edward Frankland in the work of analysing the water supplied by the London water companies.

THE death is announced of Dr. Birch-Hirschfeld, professor of pathology in the University of Leipzig, at the age of fifty-seven. Prof. Birch-Hirschfeld was one of the most distinguished pathologists in Germany.

THE *British Medical Journal* states that a State Institute of Serumtherapy, Vaccination, and Bacteriology, to bear the name of Alfonso XIII., has been created in Madrid. The new institute is organised on the lines of the Institut Pasteur.

AN International Congress of Mining and Metallurgy will be held in Paris on June 18–23 next year. The congress, like that of 1889, will be under the direct patronage of the French Government. In the provisional programme the following subjects are down for discussion:—Mining: use of explosives in mines; use of electricity in mines; mining at great depths; labour-saving methods as applied to mining. Metallurgy: progress in the metallurgy of iron and steel since 1889; application of electricity to metallurgy—(*a*) chemical, and (*b*) mechanical; progress in the metallurgy of gold; recent improvements in the dressing of minerals. The general secretary is M. Gruner, rue de Châteaudun, 55 Paris.

A COURSE of twelve demonstrations will be given in the psychological laboratory of University College during the Lent Term, commencing on January 19, 1900, by Mr. W. McDougall, Fellow of St. John's College, Cambridge. The Class will meet once a week on the day and at the hour that are found to be most convenient to the majority of the students. The methods of investigating experimentally all the chief types of elementary mental process will be demonstrated, and the students will be afforded opportunities to practise the methods. The subjects will include the several aspects of skin-sensibility and the "muscular sense"; the colour sense, visual distance and optical illusions; appreciation of tone-intervals and localisation of sound; sensibility to pain; simple measurements of memory; estimation of periods of time, &c. Students should send in their names to Mr. McDougall, St. John's College, Cambridge, before Tuesday, January 16, 1900, when the Term begins.

IN the early part of last week a "Bottlenose" whale was reported to have stranded on the river-bank at North Woolwich. The animal was a female, and on Wednesday, November 29, it was delivered, some time after death, of two young. On Friday a visit was made to Woolwich to see if either of the specimens were required for the Natural History Museum. That morning the carcase of the mother had, however, been towed out to sea by the sanitary authorities; but the body of a young one (which measured sixteen feet in length) was on view in front of the station, where it had attracted crowds the previous day. A glance showed that, instead of being a "Bottlenose," it was a "Finner" or Rorqual; and, since the mother was stated to have measured over sixty feet in length, there could be no doubt that it was the common species (*Balaenoptera musculus*), of which there is now a life-sized half-model in the Natural